

**REMARKS/ARGUMENTS**

Independent claim 1 has been amended to recite that the gas generant is a non-azide or non-azole composition. Support for the amendment is found in the as-filed specification at least at paragraphs [0025]-[0027]. The compositions disclosed in paragraphs [0025]-[0027] would be understood by a person of ordinary skill in the art to be non-azide or non-azole compositions. Claim 1 has also been amended to recite that the fire suppression system is configured to dispel, at an exit thereof, the inert gas mixture to provide a dispelled inert gas mixture into a space, the dispelled inert gas mixture comprising carbon dioxide in a concentration substantially equal to the concentration pyrotechnically produced by the at least one gas generant. Support for the amendment is found in the as-filed specification at least at paragraphs [0051] and [0055].

Independent claim 57 has been amended to recite igniting at least one non-azide or non-azole gas generant. Support for this amendment is as described above. Claim 57 has also been amended to recite dispersing the inert gas mixture into a space to extinguish a fire, the dispersed inert gas mixture comprising carbon dioxide in a concentration substantially equal to the concentration produced by ignition of the at least one gas generant such that the space comprises carbon dioxide at a concentration less than or equal to the Immediately Harmful to Life or Health concentration of carbon dioxide. Support for the amendments is found in the as-filed specification at least at paragraphs [0025]-[0027], [0048]-[0055], and [0068]-[0079].

Claim 37 has been amended to delete a portion of the subject matter that is recited in claim 1. Dependent claims 58-65, 69-74, 87-90, and 101-106 have been amended to improve antecedent basis. No new matter has been added.

New claims 116-119 have been added. Support for the new claims is found in the as-filed specification at least at paragraphs [0020]-[0079] and in the as-filed claims, and at least at paragraphs [0018], [0032], [0037]-[0039], [0042]-[0044], and [0051] of U.S. Patent Application Serial No. 10/727,093, filed on December 2, 2003, and entitled "Method and Apparatus for Suppression of Fires." The latter application was incorporated by reference in the as-filed specification, as evidenced by paragraph [0001] of the as-filed specification, and, therefore, is properly relied upon as support for the claim amendments. As such, no new matter has been added.

The Office Action mailed November 21, 2007, has been received and reviewed. Claims 1-5, 7-16, 18-67, 69-90 and 94-115 are currently pending in the application. Claims 29, 30, 66, 67, 83-90 and 94-114 have been withdrawn from consideration as being drawn to non-elected invention(s). Claims 1-5, 7-16, 18-28, 31-65, 69-82, and 115 stand rejected. Applicants have amended claims 1, 37, 57-65, 69-74, 87-90, and 101-106, added new claims 116-119, and respectfully request reconsideration of the application as amended herein.

### **Election of Species Requirement**

In the Office Action Summary, the Examiner indicates that claims 29, 30, 66, 67, 83-90, and 94-114 are withdrawn from consideration. **Since the Examiner has not provided reasons for maintaining the “withdrawn” status of claims 29, 30, 66, 67, 83-90 and 94-114 and has not responded to Applicants’ previous arguments arguing for examination of these claims, Applicants are unable to prepare adequate arguments regarding the patentability of these claims. Applicants respectfully request acknowledgment and a response to Applicants’ previous arguments, which are summarized below.**

As detailed in Applicants’ responses filed on March, 24, 2006, and August 14, 2006, the Election of Species Requirement regarding claims 29, 30, and 83-90 should be withdrawn. Since arguments for withdrawing the species election of these claims were provided in the above-mentioned responses, the arguments are not repeated herein. While the Examiner withdrew the species election of claims 26-28 and 31-56 in the Office Action dated November 17, 2006, the Examiner did not withdraw the species election of claims 29, 30, and 83-90. However, the Examiner also did not provide any reasons for maintaining the species election of these latter claims.

As detailed in Applicants’ response filed on May 29, 2007, the Election of Species Requirement regarding claims 66, 67, and 94-114 should also be withdrawn. In regard to claims 66 and 67, the Examiner indicated that these claims are withdrawn as being identical to withdrawn claims 29 and 30, respectively. However, claims 66 and 67 are not identical to claims 29 and 30 because the former claims recite method-like limitations and are dependent on a method claim (claim 57), while the latter claims recite composition of matter-like limitations and are dependent on an apparatus claim (claim 1). In addition, since the Examiner has not provided

reasons for maintaining the species election of claims 29 and 30, Applicants are unclear of the reasons for maintaining the withdrawal of claims 66 and 67.

The Examiner also indicates that claims 94-114 are withdrawn from consideration as being directed to a non-elected invention. However, claims 94-100 depend directly or indirectly on claim 1 and, therefore, are allowable, *inter alia*, as depending from an allowable base claim. Similarly, claims 101-106 depend directly on claim 57 and, therefore, are allowable, *inter alia*, as depending from an allowable base claim. Therefore, contrary to the Examiner's assertion, claims 94-106 are not directed to a non-elected invention. Claims 107-114 are also not directed to a non-elected invention because these claims are directed to a fire suppression system, as are pending claims 1-5, 7-16, 18-56, and 79-86.

As a result, claims 1-5, 7-16, 18-67, 69-90, and 94-114 should be under consideration in the pending application.

### 35 U.S.C. § 102(b) Anticipation Rejections

#### Anticipation Rejection Based on U.S. Patent No. 5,449,041 to Galbraith

Claims 1-5, 7-9, 11-14, 18, 23-25, 57-61, 63-65, 69, and 73-75 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,449,041 to Galbraith ("Galbraith"). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Galbraith discloses a method and apparatus for suppressing a fire. Galbraith at column 1, lines 6-10. A solid propellant in the apparatus is ignited to produce a first gas that includes carbon dioxide, nitrogen, and water vapor. *Id.* at column 3, lines 3-5 and lines 64-67. The solid propellant is an azide-based or an azole-based mixture. *Id.* at column 4, line 23-column 5, line 11. The first gas is directed from the apparatus to suppress the fire. *Id.* at column 3, lines 5-7 and column 7, lines 40-43.

Galbraith does not expressly or inherently describe each and every element of claim 1 because Galbraith does not disclose the element of “the at least one gas generant comprising a non-azide or a non-azole composition formulated to pyrotechnically produce an inert gas mixture comprising carbon dioxide at a concentration less than or equal to the Immediately Harmful to Life or Health concentration of carbon dioxide,” as recited in claim 1. Rather, the solid propellant used in Galbraith is an azide- or azole-based mixture. In addition, Galbraith does not describe that the solid propellants used in its apparatus produce carbon dioxide at a concentration less than or equal to the Immediately Harmful to Life or Health concentration. While Galbraith discloses that carbon dioxide, nitrogen, and water vapor are produced upon ignition of the solid propellant, Galbraith does not disclose relative amounts of the produced gases. Furthermore, while Galbraith discloses a solid propellant that produces nitrogen and slag, this solid propellant is an azide-based mixture.

Galbraith also does not disclose the element of “the fire suppression system configured to dispel, at an exit thereof, the inert gas mixture to provide a dispelled inert gas mixture into a space, the dispelled inert gas mixture comprising carbon dioxide in a concentration substantially equal to the concentration pyrotechnically produced by the at least one gas generant.” While Galbraith discloses that carbon dioxide, nitrogen, and water vapor are produced upon ignition of the solid propellant and are directed from the apparatus, Galbraith does not describe relative amounts of the produced gases or relative amounts of the gases that are directed from the apparatus and into the environment. Therefore, Galbraith does not disclose that its first gas includes carbon dioxide in a concentration substantially equal to the concentration produced by ignition of the solid propellant. Galbraith also does not disclose that the environment to which the first gas is directed includes carbon dioxide at a concentration less than or equal to the Immediately Harmful to Life or Health concentration.

Since Galbraith does not show the identical invention in as complete detail as is contained in claim 1, the anticipation rejection is improper and should be withdrawn. Dependent claims 2-5, 7-9, 11-14, 18, and 23-25 are allowable as depending from an allowable base claim.

Claim 7 is further allowable because Galbraith does not disclose that the least one gas generant is formulated to produce less than 1 percent of an original weight of the at least one gas generant in particulates or smoke.

Claim 23 is further allowable because Galbraith does not disclose that the fire suppression system further comprises at least one diffuser plate to disperse the inert gas mixture.

Claim 24 is further allowable because Galbraith does not disclose that the at least one diffuser plate is configured and positioned to diffuse the inert gas mixture into a heat management system.

Claim 25 is further allowable because Galbraith does not disclose that the at least one diffuser plate is configured and positioned to disperse the inert gas mixture exiting from the fire suppression system.

Galbraith does not expressly or inherently describe each and every element of claim 57 because Galbraith does not disclose the element of “igniting at least one non-azide or non-azole gas generant to produce an inert gas mixture comprising carbon dioxide.” Since the solid propellants of Galbraith are azide- or azole-based, Galbraith does not disclose igniting a gas generant as recited in claim 57.

Galbraith also does not disclose the element of “dispersing the inert gas mixture into a space to extinguish a fire, the dispersed inert gas mixture comprising carbon dioxide in a concentration substantially equal to the concentration produced by ignition of the at least one gas generant such that the space comprises carbon dioxide at a concentration less than or equal to the Immediately Harmful to Life or Health concentration of carbon dioxide.” While Galbraith discloses that carbon dioxide, nitrogen, and water vapor are produced upon ignition of the solid propellant and are directed from the apparatus, Galbraith does not describe relative amounts of the produced gases or relative amounts of the gases that are directed from the apparatus. Therefore, Galbraith does not disclose that its first gas includes carbon dioxide in a concentration substantially equal to the concentration produced by ignition of the solid propellant. Galbraith also does not disclose that the environment to which the first gas is directed includes carbon dioxide at a concentration less than or equal to the Immediately Harmful to Life or Health concentration.

Since Galbraith does not show the identical invention in as complete detail as is contained in claim 57, the anticipation rejection is improper and should be withdrawn. Dependent claims 58-61, 63-65, 69, and 73-75 are allowable as depending from an allowable base claim.

Applicants respectfully submit that withdrawn, independent claim 107 is allowable because Galbraith does not disclose the elements of “at least one gas generant formulated to pyrotechnically produce an inert gas mixture comprising less than approximately 4% by volume of carbon dioxide, the at least one gas generant comprising hexa(ammine)cobalt(III)nitrate and guanidine nitrate” and “the fire suppression system configured to dispense, at an exit thereof, the inert gas mixture comprising carbon dioxide in a concentration substantially equal to the concentration pyrotechnically produced by the at least one gas generant” for substantially the same reasons as described above for claim 1.

New independent claim 116 is allowable because Galbraith does not disclose the element of “the at least one non-azide or non-azole gas generant formulated to pyrotechnically produce a first gas mixture comprising carbon dioxide,” for substantially the same reasons as discussed above for claim 1. In addition, Galbraith does not disclose the element of “the fire suppression system configured to dispel, at an exit thereof, the first gas mixture and a second gas mixture comprising carbon dioxide into a space to provide carbon dioxide at a concentration less than or equal to the Immediately Harmful to Life or Health concentration of carbon dioxide in the space.”

New independent claim 117 is allowable because Galbraith does not disclose the element of “the at least one non-azide or non-azole gas generant formulated to pyrotechnically produce an inert gas mixture comprising carbon dioxide at a concentration less than or equal to the Immediately Harmful to Life or Health concentration of carbon dioxide,” for substantially the same reasons as discussed above for claim 1. Galbraith also does not disclose the element of “the fire suppression system configured to dispel, at an exit thereof, at least a portion of the inert gas mixture, the dispelled inert gas mixture comprising carbon dioxide in a concentration equal to the concentration pyrotechnically produced by the at least one non-azide or non-azole gas generant.”

New independent claim 118 is allowable because Galbraith does not disclose the element of “a chamber and at least one gas generant housed therein, the at least one gas generant comprising a non-azide or a non-azole composition formulated to pyrotechnically produce an inert gas mixture comprising carbon dioxide.” Galbraith also does not disclose the element of “the fire suppression system configured to dispel, at an exit thereof, the inert gas mixture as

pyrotechnically produced into a space, the space comprising carbon dioxide at less than approximately 4% by volume.”

New dependent claim 119 is allowable, *inter alia*, as depending from claim 118.

### **35 U.S.C. § 103(a) Obviousness Rejections**

#### Obviousness Rejection Based on Galbraith

Dependent claims 10, 22, 62, 72, 77, 78, and 115 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Galbraith. Applicants respectfully traverse this rejection, as hereinafter set forth.

The nonobviousness of independent claims 1 or 57 precludes a rejection of the above-mentioned claims, which depends therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

Therefore, Applicants request that the Examiner withdraw the obviousness rejection of claims 10, 22, 62, 72, 77, 78, and 115.

#### Obviousness Rejection Based on Galbraith in View of U.S. Patent No. 5,538,568 to Taylor *et al.* and U.S. Patent No. 5,882,036 to Moore *et al.*

Claims 15, 70, 79, and 80 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Galbraith in view of U.S. Patent No. 5,538,568 to Taylor *et al.* (“Taylor”) and U.S. Patent No. 5,882,036 to Moore *et al.* (“Moore”). Applicants respectfully traverse this rejection, as hereinafter set forth.

The teachings of Moore and Taylor are as summarized in the response filed on May 29, 2007, and, therefore, are not repeated herein.

The nonobviousness of independent claims 1 or 57 precludes a rejection of the above-mentioned claims, which depends therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

In addition, there is no reason that would have prompted combination of the applied references in the manner asserted by the Examiner. The Examiner states that “[i]t would have

been obvious . . . to have made the gas generant of Galbraith comprising a combination of the elements as taught by Taylor et al. and Moore et al. since Taylor et al. and Moore et al. teach such elements for forming a gas generant are known in the art and the combination of these elements would properly form a gas generant.” Office Action of November 21, 2007, p. 3. However, this reasoning is conclusory. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01 (emphasis in original).

Furthermore, as provided for by M.P.E.P. §§ 2141 II and 2143 A(1), the Examiner “must resolve the *Graham* factual inquiries.” However, contrary to this requirement, the Examiner has not addressed the level of ordinary skill in the pertinent art at the time of the invention. At best, the obviousness rejection proposes combining elements from Galbraith, Taylor, and Moore by improperly picking and choosing disparate elements from each of the references, which can only be a hindsight attempt to gather elements for bringing them together with the benefit of Applicants’ disclosure.

The Examiner also has not identified a rationale consistent with any of the rationales outlined in M.P.E.P. § 2143 that can be used to support a legal conclusion of obviousness. As such, Applicants are unclear which rationale from the list of exemplary rationales in M.P.E.P. § 2143 the Examiner is relying on. Assuming *arguendo* that the Examiner is relying on Rationale A (“Combining Prior Art Elements According to Known Methods To Yield Predictable Results”) of M.P.E.P. § 2143, the Examiner has not established a *prima facie* case of obviousness because the Examiner has failed to articulate a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that, in combination, each element merely performed the same function as it does separately, as required by M.P.E.P. § 2143. The Examiner also has not articulated a finding that one of ordinary skill in the art would have recognized that the results of the proposed combination were predictable, as required by M.P.E.P. § 2143.

Assuming *arguendo* that the Examiner is relying on Rationale B (“Simple Substitution of One Known Element for Another To Obtain Predictable Results”) of M.P.E.P. § 2143, the Examiner has not established a *prima facie* case of obviousness because the Examiner has failed to articulate a finding that the substituted components and their functions were known in the art,



a finding that one of ordinary skill in the art could have substituted one known element for another, and that the results of the substitution would have been predictable, as required by M.P.E.P. § 2143.

Claims 79 and 80 are further allowable because the applied references do not teach or suggest that the hexa(amine)cobalt(III)-nitrate is recrystallized (claim 79) or that the hexa(amine)cobalt(III)-nitrate comprises less than approximately 0.1% of activated charcoal or carbon (claim 80).

Therefore, Applicants request that the Examiner withdraw the obviousness rejection of claims 15, 70, 79, and 80.

Obviousness Rejection Based on Galbraith in View of Taylor and U.S. Patent No. 6,481,746 to Hinshaw *et al.*

Claims 16, 71, 81, and 82 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Galbraith in view of Taylor and U.S. Patent No. 6,481,746 to Hinshaw *et al.* (“Hinshaw”). Applicants respectfully traverse this rejection, as hereinafter set forth.

The teachings of Hinshaw are as summarized in the response filed on January 11, 2007, and, therefore, are not repeated herein.

The Examiner states that “[i]t would have been obvious . . . to have made the gas generant of Galbraith comprising a combination of the elements as taught by Taylor *et al.* and Hinshaw *et al.* since Taylor *et al.* and Hinshaw *et al.* teach such elements for forming a gas generant are known in the art and the combination of these elements would properly form a gas generant.” Office Action of November 21, 2007, p. 3-4. However, this reasoning is conclusory. Moreover, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01 (emphasis in original).

Furthermore, as provided for by M.P.E.P. §§ 2141 II and 2143 A(1), the Examiner “must resolve the *Graham* factual inquiries.” However, contrary to this requirement, the Examiner has not addressed the level of ordinary skill in the pertinent art at the time of the invention. At best, the obviousness rejection proposes combining elements from Galbraith, Taylor, and Hinshaw by improperly picking and choosing disparate elements from each of the references, which can only

be a hindsight attempt to gather elements for bringing them together with the benefit of Applicants' disclosure.

Furthermore, the Examiner has not identified a rationale consistent with any of the rationales outlined in M.P.E.P. § 2143 that can be used to support a legal conclusion of obviousness. As such, Applicants are unclear which rationale from the list of exemplary rationales in M.P.E.P. § 2143 the Examiner is relying on. Assuming *arguendo* that the Examiner is relying on Rationale A ("Combining Prior Art Elements According to Known Methods To Yield Predictable Results") of M.P.E.P. § 2143, the Examiner has not established a *prima facie* case of obviousness because the Examiner has failed to articulate a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that, in combination, each element merely performed the same function as it does separately, as required by M.P.E.P. § 2143. The Examiner also has not articulated a finding that one of ordinary skill in the art would have recognized that the results of the proposed combination were predictable, as required by M.P.E.P. § 2143.

Assuming *arguendo* that the Examiner is relying on Rationale B ("Simple Substitution of One Known Element for Another To Obtain Predictable Results") of M.P.E.P. § 2143, the Examiner has not established a *prima facie* case of obviousness because the Examiner has failed to articulate a finding that the substituted components and their functions were known in the art, a finding that one of ordinary skill in the art could have substituted one known element for another, and that the results of the substitution would have been predictable, as required by M.P.E.P. § 2143.

Therefore, Applicants request that the Examiner withdraw the obviousness rejection of claims 16, 71, 81 and 82.

Obviousness Rejection Based on Galbraith in View of U.S. Patent No. 5,739,460 to Knowlton et al.

Claims 19-21 and 76 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Galbraith in view of U.S. Patent No. 5,739,460 to Knowlton et al. ("Knowlton"). Applicants respectfully traverse this rejection, as hereinafter set forth.

The teachings of Knowlton are as summarized in the response filed on January 11, 2007, and, therefore, are not repeated herein.

Claims 19-21 are allowable, *inter alia*, as depending from an allowable base claim, namely claim 1. Claim 76 is allowable, *inter alia*, as depending from an allowable base claim, namely claim 57.

Claims 19-21 and 76 are further allowable because the applied references do not teach or suggest all of the limitations of these claims. Specifically, the applied references, alone or in combination, do not teach or suggest a heat management system that comprises a phase change material (claim 19) or flowing the inert gas mixture over a phase change material (claim 76). Since the applied references do not teach or suggest a phase change material, the applied references necessarily do not teach or suggest that the phase change material in the heat management system comprises lithium nitrate, sodium nitrate, potassium nitrate, or mixtures thereof (claim 20) or that the fire suppression system is configured to transfer heat from the inert gas mixture to the phase change material (claim 21).

While Knowlton teaches lithium nitrate, sodium nitrate, or potassium nitrate are present in an autoignition composition, Knowlton does not teach or suggest that these components are present in a “heat management system positioned and configured to reduce a temperature of the inert gas mixture,” as recited in claim 3, upon which claims 19-21 directly or indirectly depend. Rather, the autoignition composition of Knowlton produces heat to initiate combustion of the gas generator composition of Knowlton. Similarly, claim 76 depends from claim 74, which recites “exposing the inert gas mixture to a heat management system.”

Since the applied references do not teach or suggest all of limitations of claims 19-21 and 76, the obviousness rejection is improper and should be withdrawn.

Obviousness Rejection Based on Galbraith in View of U.S. Patent No. 6,116,348 to Drakin

Claims 26-28, 31-45, 48, 49, and 53-56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Galbraith in view of U.S. Patent No. 6,116,348 to Drakin (“Drakin”). Applicants respectfully traverse this rejection, as hereinafter set forth.

The teachings of Drakin are as summarized in the response filed on October 31, 2007, and, therefore, are not repeated herein.

Dependent claims 26-28, 31-45, 48, 49, and 53-56 are allowable as depending from an allowable base claim.

Claim 37 is further allowable because the applied references do not teach or suggest that the at least one gas generant is formulated to produce less than an Immediately Harmful to Life or Health concentration of ammonia, carbon monoxide, or nitrogen oxides and less than 1 percent of an original weight of the at least one gas generant in particulates or smoke.

Obviousness Rejection Based on Galbraith in View of Drakin, and in Further View of Taylor and Moore

Claim 46 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Galbraith in view of Drakin, and in further view of Taylor and Moore. Applicants respectfully traverse this rejection, as hereinafter set forth.

Dependent claim 46 is allowable as depending from an allowable base claim.

Claim 46 is further allowable because there is no reason that would have prompted a person of ordinary skill in the art to combine in the manner asserted. The Examiner states that “[i]t would have been obvious . . . to have made the gas generant of Galbraith and Drakin comprising a combination of the elements as taught by Taylor et al. and Moore et al. since Taylor et al. and Moore et al. teach such elements for forming a gas generant are known in the art and the combination of these elements would properly form a gas generant.” Office Action of November 21, 2007, p. 5. However, this reasoning is conclusory. Moreover, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01 (emphasis in original).

Furthermore, as provided for by M.P.E.P. §§ 2141 II and 2143 A(1), the Examiner “must resolve the *Graham* factual inquiries.” However, contrary to this requirement, the Examiner has not addressed the level of ordinary skill in the pertinent art at the time of the invention. At best, the obviousness rejection proposes combining elements from Galbraith, Taylor, and Hinshaw by improperly picking and choosing disparate elements from each of the references, which can only be a hindsight attempt to gather elements for bringing them together with the benefit of Applicants’ disclosure.

Furthermore, the Examiner has not identified a rationale consistent with any of the rationales outlined in M.P.E.P. § 2143 that can be used to support a legal conclusion of obviousness. As such, Applicants are unclear which rationale from the list of exemplary rationales in M.P.E.P. § 2143 the Examiner is relying on. Assuming *arguendo* that the Examiner is relying on Rationale A (“Combining Prior Art Elements According to Known Methods To Yield Predictable Results”) of M.P.E.P. § 2143, the Examiner has not established a *prima facie* case of obviousness because the Examiner has failed to articulate a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that, in combination, each element merely performed the same function as it does separately, as required by M.P.E.P. § 2143. The Examiner also has not articulated a finding that one of ordinary skill in the art would have recognized that the results of the proposed combination were predictable, as required by M.P.E.P. § 2143.

Assuming *arguendo* that the Examiner is relying on Rationale B (“Simple Substitution of One Known Element for Another To Obtain Predictable Results”) of M.P.E.P. § 2143, the Examiner has not established a *prima facie* case of obviousness because the Examiner has failed to articulate a finding that the substituted components and their functions were known in the art, a finding that one of ordinary skill in the art could have substituted one known element for another, and that the results of the substitution would have been predictable, as required by M.P.E.P. § 2143.

Therefore, Applicants request that the Examiner withdraw the obviousness rejection of claim 46.

Obviousness Rejection Based on Galbraith in View of Drakin, and in Further View of Taylor and Hinshaw

Claim 47 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Galbraith in view of Drakin, and in further view of Taylor and Hinshaw. Applicants respectfully traverse this rejection, as hereinafter set forth.

Dependent claim 47 is allowable as depending from an allowable base claim.

Claim 47 is further allowable because there is no reason that would have prompted a person of ordinary skill in the art to combine in the manner asserted. The Examiner states that

“[i]t would have been obvious . . . to have made the gas generant of Galbraith and Drakin comprising a combination of the elements as taught by Taylor et al. and Hinshaw et al. since Taylor et al. and Hinshaw et al. teach such elements for forming a gas generant are known in the art and the combination of these elements would properly form a gas generant.” Office Action of November 21, 2007, p. 5. However, this reasoning is conclusory. Moreover, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01 (emphasis in original).

Furthermore, as provided for by M.P.E.P. §§ 2141 II and 2143 A(1), the Examiner “must resolve the *Graham* factual inquiries.” However, contrary to this requirement, the Examiner has not addressed the level of ordinary skill in the pertinent art at the time of the invention. At best, the obviousness rejection proposes combining elements from Galbraith, Taylor, and Hinshaw by improperly picking and choosing disparate elements from each of the references, which can only be a hindsight attempt to gather elements for bringing them together with the benefit of Applicants’ disclosure.

Furthermore, the Examiner has not identified a rationale consistent with any of the rationales outlined in M.P.E.P. § 2143 that can be used to support a legal conclusion of obviousness. As such, Applicants are unclear which rationale from the list of exemplary rationales in M.P.E.P. § 2143 the Examiner is relying on. Assuming *arguendo* that the Examiner is relying on Rationale A (“Combining Prior Art Elements According to Known Methods To Yield Predictable Results”) of M.P.E.P. § 2143, the Examiner has not established a *prima facie* case of obviousness because the Examiner has failed to articulate a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that, in combination, each element merely performed the same function as it does separately, as required by M.P.E.P. § 2143. The Examiner also has not articulated a finding that one of ordinary skill in the art would have recognized that the results of the proposed combination were predictable, as required by M.P.E.P. § 2143.

Assuming *arguendo* that the Examiner is relying on Rationale B (“Simple Substitution of One Known Element for Another To Obtain Predictable Results”) of M.P.E.P. § 2143, the Examiner has not established a *prima facie* case of obviousness because the Examiner has failed

to articulate a finding that the substituted components and their functions were known in the art, a finding that one of ordinary skill in the art could have substituted one known element for another, and that the results of the substitution would have been predictable, as required by M.P.E.P. § 2143.

Therefore, Applicants request that the Examiner withdraw the obviousness rejection of claim 47.

Obviousness Rejection Based on Galbraith in View of Drakin, and in Further View of Knowlton

Claims 50-52 and 76 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Galbraith in view of Drakin, and in further view of Knowlton. Applicants respectfully traverse this rejection, as hereinafter set forth.

Dependent claims 50-52 and 76 are allowable as depending from an allowable base claim.

In addition, claims 50-52 and 76 are allowable because Galbraith, Drakin, and Knowlton, alone or in combination, do not teach or suggest all of the limitations of claims 50-52 for substantially the same reasons as described above for claims 19-21. Specifically, Drakin does not cure the above-mentioned deficiencies in Galbraith and Knowlton.

Since the applied references do not teach or suggest all of limitations of claims 50-52 and 76, the obviousness rejection is improper and should be withdrawn.

### ENTRY OF AMENDMENTS

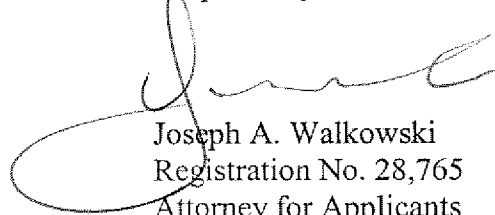
The amendments to claims 1, 37, 57-65, 69-74, 87-90, and 101-106 and new claims 116-119 should be entered by the Examiner because the amendments and new claims are supported by the as-filed specification and drawings and do not add new matter to the application.

Applicants consider claims 1, 57, and 107 to be generic, and note that upon allowance of a generic claim, claims depending therefrom in a non-elected species would also be allowable.

### CONCLUSION

Claims 1-5, 7-16, 18-67, 69-90, and 94-119 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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